



Attorney Docket No. 108910-00123

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of)
Musso et al) Examiner: R. SERGENT
Serial No. 10/790,687) Art Unit: 1711
Filed: August 16 1999)
For: FOAMING COMPOSITIONS)

DECLARATION OF DR. ALBERTO NICOLETTI

PURSUANT TO 37 C.F.R. § 1.132

Hon. Commissioner of Patents and Trademarks

Washington, D.C. 20231

Sir:

I, ALBERTO NICOLETTI, do hereby declare that:

1. I worked with the inventors of the present invention (?)
2. I know the content of the above pending application.
3. I have been working in Ausimont (now Solvay) Research & Development Center since 1976 in the field of inorganic and organic chemistry.
4. the following experiment was run under my supervision.
Eight formulations for polyurethane rigid foams have been performed, according to the following procedure:

In a polyethylene cylindrical container (diameter 12 cm, height 18 cm) 100 g of polyol polyether containing silicone

surfactant (1.5 %w), 2.0 g of water, 2.5 g of N,N-dimethyl cycloexylamine, and the required amount of blowing agent were introduced. Said amount was calculated in order to have the same number of moles of the blowing agent in each of the compositions to be tested.

The polyol polyether added had a number of hydroxyl equal to 500 mg of KOH equiv/g, the aminic catalyst a number of hydroxyl equal to 500 mg of KOH equiv/g.

The content of the polyethylene cylindrical container was mixed with a mechanical stirrer for one minute at the rate of 1900 rpm, then 160 g of isocyanate was added and stirring was continued at the same speed for 15 seconds.

The isocyanate used (DESMODUR® 44V20 by BAYER) was a polymeric methylenediphenylisocyanate (PMDI) having a number of hydroxyl equal to 438 mg of KOH equiv/g (% weight of NCO = 32.79 and a number index of 1.1).

The reaction was allowed to complete so that the foams could freely expand.

From the central part of each of the obtained foams a portion was drawn for visual inspection of the cell size distribution (homogeneity) and for the experimental measurement of apparent density.

The foaming compositions are reported in Table A together with the results obtained.

The reference composition is example γ of Table 14 of the Specification, using CFC 11.

The composition according to the present invention is reported under Test A and is the same as the composition of

example γ , but for the blowing agent that was the following:

$\text{HCF}_2\text{OCF}_2\text{OCF}_2\text{H}/\text{HFC 365mfc 60/40}$ (% by weight)

whereas the corresponding molar amount was the same as that of CFC 11 in example γ and was of 0,218 moles.

The experiments were carried out at room temperature (25°C).

In following Table B the quantity of each component is by weight (g).

TABLE B

	example γ	Test A
Polyol polyether (g)	100	100
Water (g)	2	2
Aminic catalyst (g)	2.5	2.5
CFC 11 (g)	30 (0,218 moles)	
HFPE1/HFC 365mfc (60/40) (g)		36.97 (0,218 moles)
ISOCYA-NATE (g)	160	160
Density (kg/m^3)	30	30.1
Foam appearance	GOOD	GOOD

5. All statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willfull false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willfull false statements may jeopardize the validity of the application or any patent or registration issuing thereon.

Date: May 15, 2007

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optical bench *n* (1883): an apparatus that is fitted for the convenient location and adjustment of light sources and optical devices and that is used for the observation and measurement of optical phenomena

optical fiber *n* (1962): a single fiber-optic strand

optical glass *n* (1840): flint or crown glass of well-defined characteristics used esp. for making lenses

optical illusion *n* (1794): ILLUSION 2a(1)

optical rotation *n* (1895): the angle through which the plane of vibration of polarized light that traverses an optically active substance is rotated

optic axis *n* (1664): a line in a doubly refracting medium that is parallel to the direction in which all components of plane-polarized light travel with the same speed

optic chiasma *n* [NL *chiasma* X-shaped configuration — more at CHI-ASMA] (1872): the X-shaped partial decussation on the undersurface of the hypothalamus through which the optic nerves are continuous with the brain — called also *optic chiasm*

optic cup *n* (ca. 1885): the optic vesicle after invaginating to form a 2-layered cup from which the retina and pigmented layer of the eye will develop — called also *eyecup*

optic disk *n* (ca. 1890): BLIND SPOT 1a

op-tician \äp-'tish-ən\ *n* (1687) 1: a maker of or dealer in optical items and instruments 2: one that grinds spectacle lenses to prescription and dispenses spectacles — compare OPHTHALMOLOGIST, OPTOMETRIST

optic lobe *n* (1854): either of two prominences of the midbrain concerned with vision

optic nerve *n* (15c): either of the pair of nerves that comprise the 2d pair of cranial nerves, arise from the ventral part of the diencephalon, supply the retina, and conduct visual stimuli to the brain — see EYE illustration

optics \äp-'tik-s\ *n pl but sing or pl in constr* (1579) 1: a science that deals with the genesis and propagation of light, the changes that it undergoes and produces, and other phenomena closely associated with it 2: optical properties

optic vesicle *n* (ca. 1885): an evagination of each lateral wall of the embryonic vertebrate forebrain from which the nervous structures of the eye develop

op-ti-mal \äp-'tä-mäl\ *adj* (1890): most desirable or satisfactory: OP-TIMUM — **op-ti-mal-i-ty** \äp-'tä-mäl-ə-tē\ *n* — **op-ti-mal-ly** \-mä-lē\ *adv*

op-ti-mism \äp-'tä-miz-əm\ *n* [F *optimisme*, fr. L *optimum*, n., best, fr. neut. of *optimus* best; akin to L *ops* power — more at OPULENT] (1759) 1: a doctrine that this world is the best possible world 2: an inclination to put the most favorable construction upon actions and events or to anticipate the best possible outcome — **op-ti-mist** \-mäst\ *n* — **op-ti-mis-tic** \äp-'tä-mis-tik\ *adj* — **op-ti-mis-ti-cal-ly** \-ti-k(ə)-lē\ *adv*

Op-ti-mist \äp-'tä-mäst\ *n* [Optimist (club)] (1911): a member of a major international service club

op-ti-mi-za-tion \äp-'tä-mä-'zä-shən\ *n* (1857): an act, process, or methodology of making something (as a design, system, or decision) as fully perfect, functional, or effective as possible; *specif*: the mathematical procedures (as finding the maximum of a function) involved in this

op-ti-mize \äp-'tä-miz\ *vt* -mized; -mizing (1857): to make as perfect, effective, or functional as possible — **op-ti-miz-er** \-mi-zər\ *n*

op-ti-mum \äp-'tä-məm\ *n pl* -mä \-mə\ also -mums [L] (1879) 1: the amount or degree of something that is most favorable to some end; *esp*: the most favorable condition for the growth and reproduction of an organism 2: greatest degree attained or attainable under implied or specified conditions — **optimum** *adj*

op-tion \äp-'shən\ *n* [F, fr. L *optio*, *optio* free choice; akin to L *optare* to choose, Gk *epiopseshai* to be going to choose] (ca. 1604) 1: an act of choosing 2: a: the power or right to choose: freedom of choice b: a privilege of demanding fulfillment of a contract on any day within a specified time c: a contract conveying a right to buy or sell designated securities or commodities at a specified price during a stipulated period; *also*: the right conveyed by an option d: a right of an insured person to choose the form in which payments due him on a policy shall be made or applied 3: something that may be chosen: as a: an alternative course of action (didn't have many ~s open in choosing a career) b: an item that is offered in addition to or in place of standard equipment (a car that includes air-conditioning and a V-8 engine among its ~s) 4: an offensive football play in which a back may choose whether to pass or run with the ball — called also *option pass*

option play *syn* see CHOICE

option *vt* (1926): to grant or take an option on

op-tion-al \äp-'shnəl, -shən-əl\ *adj* (1922): involving an option: not compulsory — **op-tion-al-ly** \-ē\ *adv*

op-to-electronics \äp-'tō-ē-lek-'trän-iks\ *n pl but sing in constr* (1959): a branch of electronics that deals with electronic devices for emitting, modulating, transmitting, and sensing light — **op-to-electronic** \-ik\ *adj*

op-to-ki-net-ic \äp-'tō-kē-'net-ik, -ki-əl\ *adj* [Gk *optos* + *kinetic*] (1925): of, relating to, or involving movements of the eyes

op-tom-e-trist \äp-'täm-ə-'trəst\ *n* (1903): a specialist licensed to practice optometry — compare OPHTHALMOLOGIST, OPTICIAN

op-tom-e-try \-trē\ *n* [Gk *optos* (verbal of *opseshai* to be going to see) + [SV -metry — more at OPTIC] (1886): the art or profession of examining the eye for defects and faults of refraction and prescribing corrective lenses or exercises but not drugs or surgery — **op-to-met-ric** \äp-'tä-me-'trik\ *adj*

opt out *vi* (1951): to choose not to participate in something — often used with *of* (impossible for anybody to opt out of politics — Brian Crozier)

op-u-lence \äp-'yā-lən(t)s\ *n* (1510) 1: WEALTH, AFFLUENCE 2: ABUNDANCE, PROFUSION

op-u-lent \-lənt\ *adj* [L *opulentus*, fr. *ops* power, help; akin to L *opus* work] (1601): exhibiting or characterized by opulence: as a: having a large estate or property: WEALTHY (hoping to marry an ~ widow) b: amply or plentifully provided or fashioned often to the point of ostentation (living in ~ comfort) *syn* see RICH — **op-u-lent-ly** *adv*

opun-tia \äp-'pän-ch(ē)-ə\ *n* [L, a plant, fr. fem. of *opuntius* of Opus, fr. *Opunt*, *Opus* Opus, ancient city in Greece] (ca. 1601): PRICKLY PEAR

opus \äp-'päs\ *n pl* opera \äp-'pə-rä, 'äp-'ä-\ *also* opus-es \äp-'päs-əz\ [L *oper*, *opus* — more at OPERATE] (1809): WORK; *esp*: a musical composition or set of compositions usu. numbered in the order of its issue

opus-cule \äp-'päs-(ə)kyü-(ə)\ *n* [F, fr. L *opusculum*, dim. of *opus*] (ca. 1656): a small or petty work: OPUSCULUM

opus-cu-lum \äp-'päs-kyä-ləm\ *n pl* -lä \-lə\ [L] (1654): a minor work (as of literature) — usu. used in pl.

or \ər, (j)ö-(ə)r, Southern also (j)är\ *conj* [ME *other*, or, fr. OE *oththe*; akin to OHG *eddo* or] (bef. 12c) 1 — used as a function word to indicate an alternative (coffee ~ tea) (sink ~ swim), the equivalent or substitutive character of two words or phrases (lessen ~ abate), or approximation or uncertainty (in five ~ six days) 2 *archaic*: EITHER 3 *archaic*: WHETHER 4 — used in logic as a sentential connective that forms a complex sentence which is true when at least one of its constituent sentences is true — compare DISJUNCTION

or *prep* [ME, fr. *or*, *adv.*, early, before, fr. ON *är*; akin to OE *ær* early — more at ERE] *archaic* (13c): BEFORE

or *conj*, *archaic* (13c): BEFORE

or \ö-(ə)r\ *n* [ME, fr. MF, gold, fr. L *aurum* — more at ORIOLE] (15c): the heraldic color gold or yellow

OR \ö-(ə)r\ *n* [or] (1947): a logical operator equivalent to the sentential connective *or* (~ gate in a computer)

-or \ər, ö-(ə)r, 'ö-(ə)r\ *n suffix* [ME, fr. OF -*eur*, -*eor* & L -*or*; OF -*eur*, fr. L -*or*; OF -*eor*, fr. L -*ator* -*or*, fr. -*atus*, pp. suffix + -*or* — more at -ATE] 1: one that does a (specified) thing (grantor)

-or \ər\ *n suffix* [ME, fr. OF -*eur*, fr. L -*or*]: condition: activity (<de-me-anor>)

ora *pl* of *os*

or-ache or **or-ach** \ör-'ich, 'är-\ *n* [ME *orage*, fr. MF *arrache*, fr. (assumed) VL *atrapic*, *atrapex*, fr. Gk *atraphaxys*] (14c): any of a genus (*Atriplex*) of herbs of the goosefoot family that have small dichinous flowers and a utricular fruit enclosed in two bracts

or-a-cle \ör-'ä-kəl, 'är-\ *n* [ME, fr. MF, fr. L *oraculum*, fr. *orare* to speak — more at ORATION] (15c) 1 a: a person (as a priestess of ancient Greece) through whom a deity is believed to speak b: a shrine in which a deity reveals hidden knowledge or the divine purpose through such a person c: an answer or decision given by an oracle 2 a: a person giving wise or authoritative decisions or opinions b: an authoritative or wise expression or answer

orac-u-lar \ör-'rak-yä-lär, -ä\ *adj* [L *oraculum*] (1678) 1: of, relating to, or being an oracle 2: resembling an oracle (as in solemnity of delivery) *syn* see DICTATORIAL — **orac-u-lar-i-ty** \-rak-yä-'lar-ə-tē\ *n* — **orac-u-lar-ly** \-rak-yä-'lar-lē\ *adv*

oral \ör-'äl, 'ör-, 'är-\ *adj* [L *or*, *os* mouth; akin to OE *ōra* border, L *ora*] (1628) 1 a: uttered by the mouth or in words: SPOKEN b: using speech or the lips *esp.* in teaching the deaf 2 a: of, given through, or involving the mouth b: being on or relating to the same surface as the mouth 3 a: of, relating to, or characterized by the first stage of psychosexual development in which libidinal gratification is derived from intake (as of food), by sucking, and later by biting. b: of, relating to, or characterized by personality traits of passive dependency and aggressiveness — **oral-i-ty** \ör-'äl-ə-tē, -ä-\ *n* — **oral-ly** \ör-'äl-lē, 'ör-, 'är-\ *adv*

oral *n* (1876): an oral examination — usu. used in pl.

oral history *n* (1955): historical information that is obtained in interviews with persons who have led significant lives and that is usu. tape-recorded — **oral historian** *n*

oral-ism \ör-'ä-liz-əm, 'ör-, 'är-\ *n* (1883): advocacy or use of the oral method of teaching the deaf — **oral-ist** \-läst\ *n*

orang \ä-'ranj\ *n* [by shortening] (1778): ORANGUTAN

or-ange \är-'inj, 'är-(ə)nj; chiefly Northern & Midland 'ör-'inj, 'ör-(ə)nj\ *n* [ME, fr. MF, fr. OPov *auranja*, fr. Ar *nāranj*, fr. Per *nārang*, fr. Skt *nāraṅga* orange tree, of Dravidian origin; akin to Tamil *naru* fragrant] (14c) 1 a: a globose berry with a reddish yellow rind and a sweet edible pulp b: any of various rather small evergreen trees (genus *Citrus*) with ovate unifoliate leaves, hard yellow wood, fragrant white flowers, and fruits that are oranges 2: any of several trees or fruits resembling the orange 3: any of a group of colors that lie midway between red and yellow in hue and are of medium lightness and moderate to high saturation

orange *adj* (1542) 1: of or relating to the orange 2: of the color orange

Orange *adj* (1795): of, relating to, or sympathizing with Orangemen — **Orange-ism** \-jiz-əm\ *n*

orange-ade \är-'in-'jäd, 'är-(ə)n-, 'ör-'in-, 'ör-(ə)n-\ *n* [F, fr. *orange* + *-ade*] (1706): a beverage of sweetened orange juice mixed with water

orange chromide *n* [chromide, deriv. of Gk *chromis*, a sea fish] (1933): a brilliant orange or yellow red-spotted fish (*Etroplus maculatus*) often kept in tropical aquariums

orange hawkweed *n* (ca. 1900): a European hawkweed (*Hieracium aurantiacum*) that has flower heads with bright orange-red rays and is a troublesome weed *esp.* in northeastern No. America

Orange-man \är-'inj-mən, 'är-(ə)nj-, 'ör-'inj-, 'ör-(ə)nj-\ *n* [William III of England, prince of Orange] (1796) 1: a member of a secret society organized in the north of Ireland in 1795 to defend the British sovereign and to support the Protestant religion 2: a Protestant Irishman *esp.* of Ulster

orange peel *n* (ca. 1909): a rough surface (as on porcelain) like that of an orange

orange pekoe *n* (1877): tea made from the tiny leaf and end bud of the shoot

or-ange-ry \är-'inj-(ə)-rē, 'är-(ə)nj-, 'ör-'inj-, 'ör-(ə)nj-\ *n pl* -ries (1664): a protected place and *esp.* a greenhouse for raising oranges in cool climates

or-ange-wood \är-'inj-wüd, 'är-(ə)nj-, 'ör-'inj-, 'ör-(ə)nj-\ *n* (1884): the wood of the orange tree used *esp.* in turnery and carving

\ə\ abut \ʌ\ kitten, F table \ər\ further \ə\ ash \ä\ ace \ä\ cot, cart
 \au\ out \ch\ chin \e\ bet \ē\ easy \g\ go \i\ hit \i\ ice \j\ job
 \j\ sing \ö\ go \ö\ law \oi\ boy \th\ thin \th\ the \ü\ loot \ü\ foot
 \y\ yet \zh\ vision \ä, k', ō, œ, ue, ū, see Guide to Pronunciation